Habitat Spot-Check Surveys, Miramichi River System, 1980

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ABSTRACT

Schofield, E.J. and J.L. Peppar. 1983. Habitat spot-check surveys, Miramichi River system, 1980. Can. Data Rep. Fish. Aquat. Sci. No. 377. v + 17 p.

During July and August, 1980, electroseining techniques were used to conduct spot-check surveys throughout the Miramichi River system, to determine the presence or absence of juvenile salmon in some of the small feeder streams. The surveys were conducted in Northumberland and York counties on some of the smaller streams which enter the Miramichi River proper or some of its major tributaries. This report includes data on habitat, substrate and water characteristics at each site, and on fish species present in sites electrofished.

Key words: Miramichi River system, electroseining, spot-checks, juvenile salmon, other species, feeder streams, substrate and water characteristics.

RÉSUMÉ

Schofield, E.J. and J.L. Peppar. 1983. Habitat spot-check surveys, Miramichi River system, 1980. Can. Data Rep. Fish. Aquat. Sci. No. 377. v + 17 p.

Au cours des mois de juillet et août 1980 on à pratiquées dans tout le réseau de la rivière Miramichi une étude se servant de la pêche électrique comme technique. Le but était de vérifier la présence ou absence de saumonneaux dans quelques-uns des petits tributaires. Les relevés ont été menés dans des petits cours d'eau des comtés de Northumberland et de York se déversant dans la Miramichi proprement dite et dans quelques-uns de ses principaux tributaires. Sont incluses dans le présent rapport des données sur les caractéristiques de l'habitat, du substrat et de l'eau, ainsi que sur les espèces de poissons présentes à chaque site de pêche.

INTRODUCTION

Electroseining operations have been conducted throughout the freshwater reaches of the Miramichi River system, northeastern New Brunswick, to assess population densities of juvenile Atlantic salmon (*Salmo salar*) and other fish species present in known salmon-producing streams (Peppar and Schofield 1978; Schofield and Peppar 1979). These operations were conducted, primarily, to determine relative spawning success in relation to increased or decreased escapement of adult salmon to the river system. With this objective in mind, operations each year have concentrated on the repetition of sites sampled in previous years.

In 1980, an electroseining spot-check program was conducted to assess some of the small Miramichi feeder streams not covered under the juvenile assessment program. The objectives of this sampling were to establish the presence or absence of juvenile salmon; determine the ratio of salmon to other species; determine age-classes of salmon by length-frequency; and document basic physical, chemical and biological data within sampling areas. Data obtained included stream and bottom characteristics (such as width, depth, bottom type and composition, extent of habitat types and extent of shade); water characteristics (conductivity and temperature); extent and dimensions of obstructions (such as natural falls, beaver dams and highway culverts) in the immediate area of sampling sites; and fish species present.

SCOPE OF OPERATIONS

A total of 32 streams (25 in Northumberland County and 7 in York County) were sampled during the period 14 Jul-19 Aug, 1980. Most of them were inaccessible for much of their lengths; thus, sampling sites had to be selected in areas having access by standard vehicle. In most cases, sites selected were near the mouths of streams.

METHODS AND STANDARDS USED

Species captured in electroseining spot-checks are listed below. They were the most commonly-captured (or, in most cases, exclusively captured) representatives of each "species-group" encountered in the catches. Common and scientific names given are those recommended by the American Fisheries Society (1970).

Designation in tables[1] (Species group)	Species	
	Common name	Scientific name
Salmon	Atlantic salmon	*Salmo salar*
Lamprey	Sea lamprey	*Petromyzon marinus*
Eel	American eel	*Anguilla rostrata*
Trout	Brook trout	*Salvelinus fontinalis*
Dace	Blacknose dace	*Rhinichthys atratulus*
Sucker	White sucker	*Catostomus commersoni*
Stickleback	Threespine stickleback	*Gasterosteus aculeatus*
	Brook stickleback	*Culaea inconstans*
	Ninespine stickleback	*Pungitius pungitius*
Sculpin	Slimy sculpin	*Cottus cognatus*

[1]Tables detailing numbers of fish taken at each sampling site.

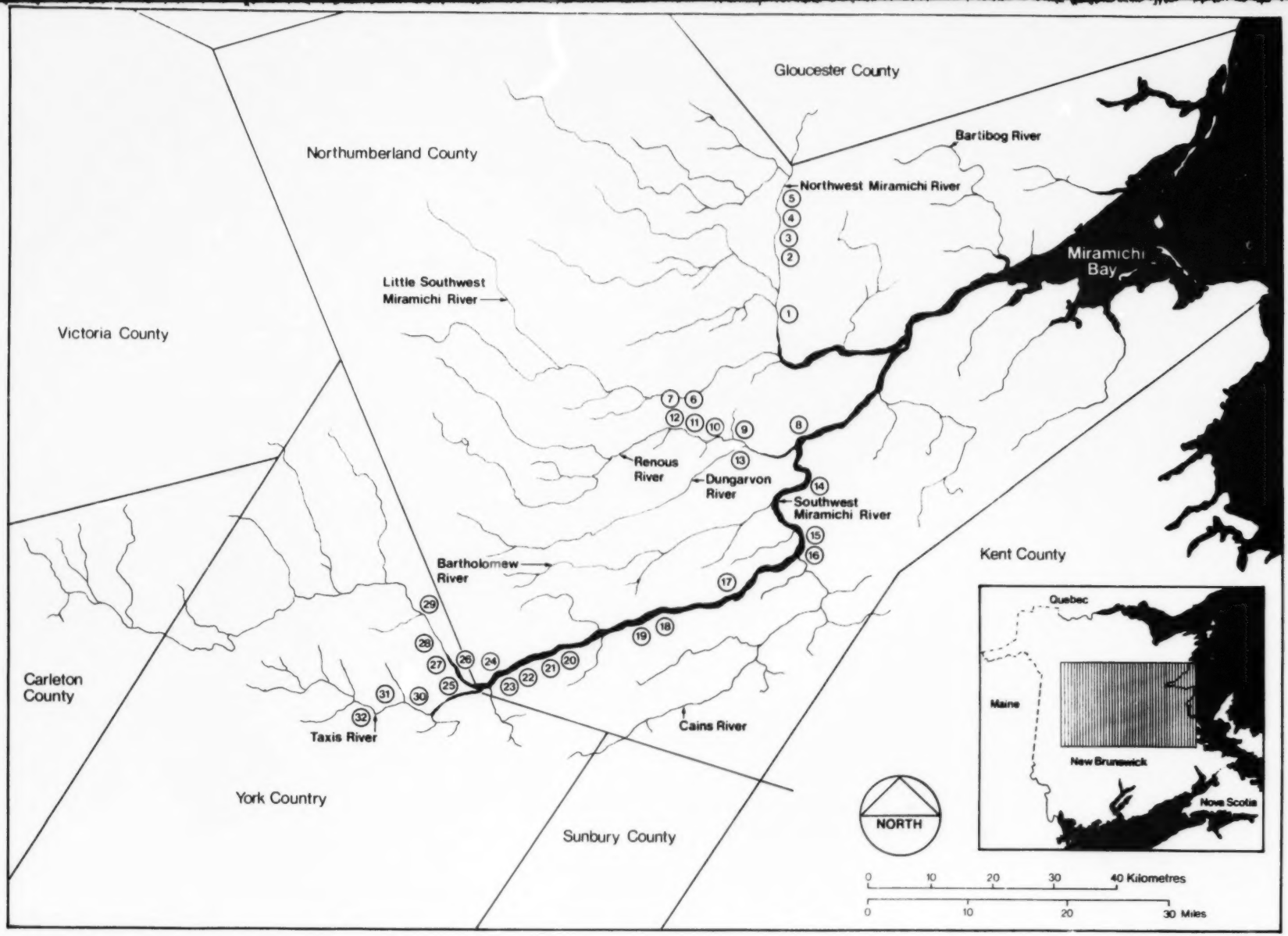

FIG. Electroseining spot-check sites, Miramichi River system, New Brunswick.

NAME OF STREAM

Name as given in Gazetteer of Canada - New Brunswick, 1972.

LOCATION OF STREAM

Approximate location of sampling sites. Grid reference (Universal Transverse Mercator) taken from National Topographic Series maps - 1:50,000.

SAMPLING SITE

Each sampling site includes a minimum of 25 m^2.

Width

Three measurements, taken at upper end and lower limits, and mid-point, over length of stream examined at each sampling site.

Average Depths

Averages of three measurements taken at upper and lower limits, and mid-point of each sampling site, and at three lateral locations (one-quarter, one-half and three-quarters of stream width). "Left" and "right" are defined when facing downstream.

Bottom Composition

Particle size as defined by Herrington and Dunham 1967:

Bedrock
Slate
Boulder (rocks > 30.5 cm diameter)
Rubble (rocks 7.6-30.5 cm diameter)
Gravel (rocks 0.3-7.6 cm diameter)
Sand and silt (particles < 0.3 cm diameter)
Mud
Hardpan (hard deposits of clay)
Detritus (leaves, twigs, bark, etc.)
Debris (rubbish, litter, etc.)

Water Temperature and Conductivity

Measured with YSI, Model 33, S-C-T meter.

Electrofishing

Conducted with a Dirigo, Series 500, electrofisher.

STREAM DATA

Data on the individual stream surveys are presented in the following pages. The order of presentation is from head of tide to headwaters (Fig.). Locations of each stream sampled are indicated on the map by numbered circles.

STREAM NAMES SHOWN NUMERICALLY ON KEY MAP

No.	Stream name
1	Wildcat Brook
2	Trout Brook
3	Lee Brook
4	Pats Brook
5	Smoker Brook
6	Harris Brook
7	Otter Brook
8	Indiantown Brook
9	Reserve Brook
10	Mill Brook
11	Johnstone Brook
12	Devils Back Brook
13	Jardine Brook
14	Becket Brook
15	McKenzie Brook
16	Black Brook
17	Hurley Brook
18	Fowler Brook
19	Doak Brook
20	Unnamed brook
21	Unnamed brook
22	Unnamed brook
23	Unnamed brook
24	Hickey Brook
25	Standish Brook
26	Porter Brook
27	Plamer Brook
28	Hayes Brook
29	Salmon Brook
30	Unnamed brook
31	English Brook
32	MacMillan Brook

Name of Stream: Wildcat Brook

Tributary to: Northwest Miramichi

River system: Miramichi

Sampling site:

Date: 5/8/80

Location: Grid Reference 850092
Map Sheet 21 P/4 W

Description: Shallow pool at upper fifth; remainder, medium-fast riffle. Stream-bed composition - 95% gravel and 5% rubble. Exposed gravel along both banks. Surrounding countryside composed of open fields and scattered elm trees.

Area: 103.3 m^2

Widths: Lower end - 6.2 m
Middle - 6.4 m
Upper end - 4.6 m

Average Depths: Left side - 13.7 cm
Middle - 25.0 cm
Right side - 16.3 cm

Water Temperature: 19°C

Conductivity: 28 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	11
Salmon (parr)	3
Dace	32
Sucker	18
Sculpin	5

Name of Stream: Trout Brook

Tributary to: Northwest Miramichi

River System: Miramichi

Sampling site:

Date: 5/8/80

Location: Grid Reference 896216
Map Sheet 21 P/4 W

Description: Fast run at middle; slow run upper left half; remainder, riffle. Overhanging alders and grass along both banks. Surrounding countryside composed of open fields.

Area: 87.6 m^2

Widths: Lower end - 9.0 m
Middle - 7.8 m
Upper end - 7.7 m

Average Depths: Left side - 21.3 cm
Middle - 30.0 cm
Right side - 24.7 cm

Water Temperature: 18.5°C

Conductivity: 42 µmhos

Biological Sampling:

Species group	Number
Salmon (parr)	14
Trout	1
Dace	1
Sculpin	1

Name of Stream: Lee Brook

Tributary to: Northwest Miramichi

River System: Miramichi

Sampling site:

Date: 5/8/80

Location: Grid Reference B53244
Map Sheet 21 P/4 W

Description: Shallow pool at lower tenth; medium-fast run through middle; remainder, riffle. Stream-bed composition - 80% rubble, 15% sand and 5% scattered boulders. Overhanging alders along both banks. Surrounding countryside composed of abandoned fields, growing up in alders and small spruce.

Area: 74.9 m^2

Widths: Lower end - 4.2 m
Middle - 5.0 m
Upper end - 3.2 m

Average Depths: Left side - 24.3 cm
Middle - 33.0 cm
Right side - 25.3 cm

Water Temperature: 18.5°C

Conductivity: 30 µmhos

Biological Sampling:

Species group	Number
Salmon (parr)	4
Trout	2
Dace	5

Name of Stream: Pats Brook

Tributary to: Northwest Miramichi

River System: Miramichi

Sampling site:

Date: 5/8/80

Location: Grid Reference B54265
Map Sheet 21 P/4 W

Description: Shallow pool at lower fifth; fast run through middle; slow run along right bank; remainder, riffle. Stream-bed composition - 60% gravel, 40% rubble and several scattered boulders. Overhanging alders and few large trees along both banks. Surrounding countryside wooded.

Area: 70.1 m^2

Widths: Lower end - 4.7 m
Middle - 3.5 m
Upper end - 4.6 m

Average Depths: Left side - 16.3 cm
Middle - 22.3 cm
Right side - 14.7 cm

Water Temperature: 16.8°C

Conductivity: 40 µmhos

Biological Sampling:

Species group	Number
Salmon (parr)	1
Trout	3

Name of Stream: Smoker Brook

Tributary to: Northwest Miramichi

River System: Miramichi

Sampling site:

Date: 5/8/80

Location: Grid Reference 864298
Map Sheet 21 P/4 W

Description: Pool in upper quarter and along left bank; fast run through middle; remainder, riffle. Stream-bed composition - 80% gravel, 15% rubble and 5% boulders. Overhanging alders and several large trees along both banks. Surrounding countryside wooded.

Area: 104.3 m^2

Widths: Lower end - 5.7 m
Middle - 4.8 m
Upper end - 7.6 m

Average Depths: Left side - 31.0 cm
Middle - 36.7 cm
Right side - 11.7 cm

Water Temperature: 18.0°C

Conductivity: 50 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	10
Salmon (part)	1
Trout	5
Dace	16
Stickleback	1
Sculpin	39

Name of Stream: Harris Brook

Tributary to: Little Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 6/8/81

Location: Grid Reference 728977
Map Sheet 21 I/13 W

Description: Medium-fast run through middle; remainder, riffle. Stream-bed composition - 85% gravel and 15% embedded rubble. Alders, grass and few large dead trees along both banks. Surrounding countryside wooded.

Area: 87.4 m^2

Widths: Lower end - 7.3 m
Middle - 5.1 m
Upper end - 4.4 m

Average Depths: Left side - 14.3 cm
Middle - 17.3 cm
Right side - 13.3 cm

Water Temperature: 15.0°C

Conductivity: 30 µmhos

Biological Sampling:

Species group	Number
Trout	1
Sculpin	13

Name of Stream: Otter Brook

Tributary to: Little Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 6/8/80

Location: Grid Reference 258956
Map Sheet 21 J/16 E

Description: Upper limit of site located below abandoned beaver dam, creating a pool containing numerous dead trees and other debris. Slow run along right bank extending to middle; remainder, riffle. Stream-bed composition - 90% gravel and 10% rubble. Alders along left bank and exposed gravel along right bank. Surrounding countryside wooded, with burnt-over area above highway.

Area: 57.2 m^2

Widths: Lower end - 4.2 m
Middle - 4.8 m
Upper end - 3.2 m

Average Depths: Left side - 20.0 cm
Middle - 15.0 cm
Right side - 17.7 cm

Water Temperature: 11.5°C

Conductivity: 30 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	1
Trout	4
Dace	5
Sculpin	8

Name of Stream: Indiantown Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 6/8/80

Location: Grid Reference 872897
Map Sheet 21 I/13 W

Description: Fast run along right bank; slow run through middle; remainder, riffle. Stream-bed composition - 90% rubble and 10% gravel. Overhanging alders on left and grass along right bank. Surrounding countryside wooded.

Area: 85.1 m^2

Widths: Lower end - 6.4 m
Middle - 8.2 m
Upper end - 7.1 m

Average Depths: Left side - 38.3 cm
Middle - 40.3 cm
Right side - 23.7 cm

Water Temperature: 14.0°C

Conductivity: 35 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	6
Salmon (parr)	22

Name of Stream: Reserve Brook

Tributary to: Renous River

River System: Miramichi

Sampling site:

Date: 6/8/80

Location: Grid Reference 781893
Map Sheet 21 I/13 W

Description: Deep pool through middle and deep slow run along both banks. Stream-bed composition - 50% rubble, 45% sand and 5% scattered boulders. Overhanging alders along both banks. Surrounding countryside composed of cutover woodland.

Area: 42.9 m^2

Widths: Lower end - 5.4 m
Middle - 7.4 m
Upper end - 5.1 m

Average Depths: Left side - 67.3 cm
Middle - 88.7 cm
Right side - 59.3 cm

Water Temperature: 18.0°C

Conductivity: 40 µmhos

Name of Stream: Mill Brook

Tributary to: Renous River

River System: Miramichi

Sampling site:

Date: 6/8/80

Location: Grid Reference 756904
Map Sheet 21 I/13 W

Description: Pool at lower middle half; remainder, dead water. Stream-bed composition - 100% mud (abandoned beaver dam). Overhanging alders and marsh grass along both banks. Surrounding countryside composed of cutover woodland.

Area: 27.6 m^2

Widths: Lower end - 3.9 m
Middle - 3.2 m
Upper end - 2.4 m

Average Depths: Left side - 18.7 cm
Middle - 33.0 cm
Right side - 18.0 cm

Water Temperature: 13.0°C

Conductivity: 28 µmhos

Name of Stream: Johnstone Brook

Tributary to: Renous River

River System: Miramichi

Sampling Site:

Date: 6/8/80

Location: Grid Reference 742903
Map Sheet 21 I/13 W

Description: Shallow pool at lower half; remainder, slow run. Stream-bed composition - 80% mud and 20% rubble. Dense alders along both banks. Surrounding countryside composed of cutover woodland.

Area: 34.8 m^2

Widths: Lower end - 2.4 m
Middle - 7.8 m
Upper end - 4.6 m

Average Depths: Left side - 20.3 cm
Middle - 35.7 cm
Right side - 25.0 cm

Water Temperature: 7.5°C

Conductivity: 20 µmhos

Name of Stream: Devils Back Brook

Tributary to: Renous River

River System: Miramichi

Sampling Site:

Date: 6/8/80

Location: Grid Reference 268921
Map Sheet 21 J/16 E

Description: Dead water throughout, due to thick alder growth and numerous dead trees in stream. Stream-bed composition - 85% rubble, 10% sand and 5% scattered boulders. Dense alders and dead softwood trees along both banks. Surrounding countryside composed of cutover woodland.

Area: 27.2 m^2

Widths: Lower end - 3.6 m
Middle - 3.4 m
Upper end - 3.5 m

Average Depths: Left side - 26.0 cm
Middle - 32.0 cm
Right side - 27.0 cm

Water Temperature: 8.0°C

Conductivity: 20 µmhos

Name of Stream: Jardine Brook

Tributary to: Dungarvon River

River System: Miramichi

Sampling site:

Date: 7/8/80

Location: Grid Reference 724846
Map Sheet 21 I/13 W

Description: Dead water throughout, due to dense alder growth and debris in stream. Stream-bed composition - 80% rubble and 20% sand. Surrounding countryside cutover woodland.

Area: 27.9 m^2

Widths: Lower end - 3.1 m
Middle - 4.2 m
Upper end - 2.7 m

Average Depths: Left side - 23.3 cm
Middle - 26.3 cm
Right side - 34.7 cm

Water Temperature: 16.0°C

Conductivity: 12 µmhos

Name of Stream: Becket Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 19/8/80

Location: Grid Reference 853785
Map Sheet 21 I/12 W

Description: Pool at upper third, created by water discharge from highway culvert; remainder, fast riffle. Overhanging alders and grass along both banks. Stream-bed composition - 80% gravel and 20% rubble. Surrounding countryside wooded.

Area: 73.5 m^2

Widths: Lower end - 6.0 m
Middle - 2.2 m
Upper end - 4.0 m

Average Depths: Left side - 9.5 cm
Middle - 14.0 cm
Right side - 14.3 cm

Water Temperature: 14.5°C

Conductivity: 33 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	11
Salmon (parr)	2
Trout	2
Sculpin	25

Name of Stream: McKenzie Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 19/8/80

Location: Grid Reference 885755
Map Sheet 21 I/12 W

Description: Medium-fast run along right bank, extending three-quarters across; remainder, slow run. Stream-bed composition - 80% rubble and 20% gravel. Overhanging alders along right bank and gravel bar along left bank. Surrounding countryside heavily wooded.

Area: 101.0 m^2

Widths: Lower end - 3.6 m
Middle - 5.2 m
Upper end - 4.9 m

Average Depths: Left side - 11.9 cm
Middle - 28.8 cm
Right side - 34.7 cm

Water Temperature: 15.0°C

Conductivity: 29 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	7
Salmon (parr)	12
Dace	10

Name of Stream: Black Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 19/8/80

Location: Grid Reference 877718
Map Sheet 21 I/12 W

Description: Medium-fast run through middle; remainder, medium-fast riffle. Stream-bed composition - 80% rubble and 20% gravel. Exposed rubble along both banks. Surrounding countryside composed of open fields below site and wooded above.

Area: 207.5 m^2

Widths: Lower end - 14.6 m
Middle - 11.8 m
Upper end - 9.3 m

Average Depths: Left side - 25.7 cm
Middle - 30.7 cm
Right side - 25.0 cm

Water Temperature: 15.3°C

Conductivity: 25 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	12
Salmon (parr)	15
Eel	1
Dace	10

Name of Stream: Hurley Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 18/8/80

Location: Grid Reference 297636
Map Sheet 21 J/9 E

Description: Shallow riffle at upper quarter; deep, slow run along left bank; remainder, medium-fast run. Stream-bed composition - 75% rubble, 20% gravel and 5% boulders. Alders and a few spruce along both banks. Surrounding countryside composed of open fields.

Area: 30.3 m^2

Widths: Lower end - 4.3 m
Middle - 3.7 m
Upper end - 3.5 m

Average Depths: Left side - 14.3 cm
Middle - 16.0 cm
Right side - 14.0 cm

Water Temperature: 12.5°C

Conductivity: 34 µmhos

Name of Stream: Fowler Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 18/8/80

Location: Grid Reference 218599
Map Sheet 21 J/9 E

Description: Shallow pool at upper quarter; medium-fast run along left bank; remainder, shallow riffle. Stream-bed composition - 80% rubble, 20% gravel and few scattered boulders. Grass, few shade trees along left bank and grass along right bank. Surrounding countryside composed of open fields.

Area: 82.1 m^2

Widths: Lower end - 4.1 m
Middle - 4.6 m
Upper end - 5.9 m

Average Depths: Left side - 8.7 cm
Middle - 13.3 cm
Right side - 14.7 cm

Water Temperature: 13.0°C

Conductivity: 40 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	6
Salmon (parr)	2
Trout	12
Sculpin	32

Name of Stream: Doak Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 17/7/80

Location: Grid Reference 197594
Map Sheet 21 J/9 E

Description: Pool at upper half; remainder, riffle. Stream-bed composition - 60% rubble, 30% clay and 10% sand. Overhanging alders and grass along both banks. Surrounding countryside composed of open fields.

Area: 37.9 m^2

Widths: Lower end - 4.9 m
Middle - 4.0 m
Upper end - 3.7 m

Average Depths: Left side - 12.0 cm
Middle - 12.0 cm
Right side - 20.0 cm

Water Temperature: 7.0°C

Conductivity: 45 µmhos

Name of Stream: Unnamed brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling Site:

Date: 17/7/80

Location: Grid Reference 049523
Map Sheet 21 J/8 W

Description: Dead water throughout site. Stream-bed composition - 80% sand, covered with moss, and 20% rubble. Overhanging alders on right bank and grass along left bank. Surrounding countryside composed of open fields.

Area: 25.5 m^2

Widths: Lower end - 1.7 m
Middle - 4.4 m
Upper end - 3.7 m

Average Depths: Left side - 8.3 cm
Middle - 13.0 cm
Right side - 9.7 cm

Water Temperature: 8.5°C

Conductivity: 22.5 µmhos

Name of Stream: Unnamed brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 17/7/80

Location: Grid Reference 541087
Map Sheet 21 J/9 E

Description: Shallow pool at middle; slow run, upper three-quarters, along both banks; remainder, riffle. Stream-bed composition - 50% mud, 45% rubble and 5% scattered boulders. Grass along both banks. Surrounding countryside composed of open fields.

Area: 33.7 m^2

Widths: Lower end - 4.7 m
Middle - 3.8 m
Upper end - 5.2 m

Average Depths: Left side - 16.0 cm
Middle - 19.3 cm
Right side - 17.7 cm

Water Temperature: 7.0°C

Conductivity: 45 µmhos

Name of Stream: Unnamed brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling Site:

Date: 16/7/80

Location: Grid Reference 028512
Map Sheet 21 J/8 W

Description: Shallow pool at upper quarter; remainder, medium-fast run. Stream-bed composition - 50% gravel, 40% rubble and 10% boulders. Grass along both banks. Surrounding countryside composed of open fields.

Area: 28.1 m^2

Widths: Lower end - 1.8 m
Middle - 1.5 m
Upper end - 1.6 m

Average Depths: Left side - 37.7 cm
Middle - 36.3 cm
Right side - 27.3 cm

Water Temperature: 13.5°C

Conductivity: 27 µmhos

Name of Stream: Unnamed brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 16/7/80

Location: Grid Reference 017507
Map Sheet 21 J/8 W

Description: Shallow pool at lower quarter; remainder, slow run. Stream-bed composition - 90% sand and 10% rubble. Overhanging alders along both banks. Surrounding countryside wooded.

Area: 32.1 m^2

Widths: Lower end - 1.8 m
Middle - 5.1 m
Upper end - 1.5 m

Average Depths: Left side - 11.7 cm
Middle - 13.3 cm
Right side - 16.0 cm

Water Temperature: 10.0°C

Conductivity: 20 µmhos

Name of Stream: Hickey Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 14/7/80

Location: Grid Reference 992500
Map Sheet 21 J/8 W

Description: Shallow pool at upper quarter, in middle; slow run along both banks at upper quarter; remainder riffle. Stream-bed composition - 80% sand and 20% rubble. Grass, alders and numerous dead trees along both banks. Surrounding countryside wooded.

Area: 33.6 m^2

Widths: Lower end - 1.6 m
Middle - 1.8 m
Upper end - 2.5 m

Average Depths: Left side - 19.0 cm
Middle - 22.0 cm
Right side - 27.7 cm

Water Temperature: 8.0°C

Conductivity: 20 µmhos

Name of Stream: Standish Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling Site:

Date: 14/7/80

Location: Grid Reference 933495
Map Sheet 21 J/8 W

Description: Shallow pool at lower quarter; remainder, medium-fast run through middle, with riffle along both banks. Stream-bed composition - 80% rubble and 20% scattered boulders. Steep (10 metres) rock ledge along right bank and clay slope along left bank. Surrounding countryside open fields.

Area: 41.3 m^2

Widths: Lower end - 5.9 m
Middle - 4.8 m
Upper end - 3.2 m

Average Depths: Left side - 11.3 cm
Middle - 16.7 cm
Right side - 15.3 cm

Water Temperature: 8.0°C

Conductivity: 35 µmhos

Name of Stream: Porter Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 15/7/80

Location: Grid Reference 939505
Map Sheet 21 J/8 W

Description: Deep, fast run throughout site. Stream-bed composition - 70% slate bedrock and 30% rubble. Alders along right bank and grass along left bank. Water deep downriver of bridge, with a series of low, natural falls. Surrounding countryside composed of open fields.

Area: 255.3 m^2

Widths: Lower end - 10.5 m
Middle - 10.0 m
Upper end - 9.2 m

Average Depths: Left side - 28.7 cm
Middle - 49.0 cm
Right side - 27.0 cm

Water Temperature: 11.8°C

Conductivity: 25 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	3
Salmon (parr)	2
Sculpin	1

Name of Stream: Palmer Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling Site:

Date: 14/7/80

Location: Grid Reference 919515
Map Sheet 21 J/7 E

Description: Shallow pools at middle half and upper quarter; remainder, slow run. Stream-bed composition - 90% rubble, 5% sand and 5% scattered boulders. Overhanging alders and scattered spruce trees along both banks. Surrounding countryside composed of open fields and becoming heavily wooded up along brook.

Area: 33.0 m^2

Widths: Lower end - 4.1 m
Middle - 3.8 m
Upper end - 4.3 m

Average Depths: Left side - 8.3 cm
Middle - 15.3 cm
Right side - 10.0 cm

Water Temperature: 8.0°C

Conductivity: 36 µmhos

Name of Stream: Hayes Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling site:

Date: 15/7/80

Location: Grid Reference 899551
Map Sheet 21 J/10 E

Description: Shallow pools at lower quarter; fast run through middle; remainder, riffle. Stream-bed composition - 80% rubble, 20% gravel and a few scattered boulders. Grass and scattered trees along both banks. Surrounding countryside heavily wooded.

Area: 240.9 m^2

Widths: Lower end - 5.5 m
Middle - 8.8 m
Upper end - 8.8 m

Average Depths: Left side - 28.7 cm
Middle - 49.0 cm
Right side - 51.0 cm

Water Temperature: 13.9°C

Conductivity: 24 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	49
Salmon (parr)	16
Eel	2
Dace	5
Sculpin	3

Name of Stream: Salmon Brook

Tributary to: Southwest Miramichi

River System: Miramichi

Sampling Site:

Date: 17/7/80

Location: Grid Reference 882585
Map Sheet 21 J/10 E

Description: Shallow pool at upper right quarter; remainder, fast riffle. Stream-bed composition - 90% rubble, 10% gravel and spotty, slate bedrock. Exposed rubble along both banks. Surrounding countryside heavily wooded.

Area: 106.7 m^2

Widths: Lower end - 7.2 m
Middle - 8.1 m
Upper end - 8.4 m

Average Depths: Left side - 22.0 cm
Middle - 33.0 cm
Right side - 15.3 cm

Water Temperature: 13.6°C

Conductivity: 34 µmhos

Biological Sampling:

Species group	Number
Salmon (fry)	3
Salmon (parr)	3
Dace	2
Sculpin	30

Name of Stream: Unnamed brook

Tributary to: Taxis River

River System: Miramichi

Sampling site:

Date: 16/7/80

Location: Grid Reference 883463
Map Sheet 21 J/7 E

Description: Shallow pool at upper quarter; remainder, shallow riffle. Stream-bed composition - 85% rubble, 15% sand and gravel. Cleared bank on right and grass on left. Surrounding countryside wooded.

Area: 109.9 m^2

Widths: Lower end - 3.2 m
Middle - 3.2 m
Upper end - 3.6 m

Average Depths: Left side - 15.3 cm
Middle - 32.0 cm
Right side - 24.7 cm

Water Temperature: 12.5°C

Conductivity: 26 µmhos

Biological Sampling:

Species group	Number
Trout	4
Sculpin	29

Name of Stream: English Brook

Tributary to: Taxis River

River System: Miramichi

Sampling Site:

Date: 15/7/80

Location: Grid Reference 844444
Map Sheet 21 J/7 E

Description: Fast run through middle, entering pool at lower quarter; remainder, riffle along both banks, extending downstream halfway, becoming slow run to pool section. Stream-bed composition - 75% rubble, 20% gravel and 5% boulders. Alders along both banks. Surrounding countryside wooded.

Area: 153.6 m^2

Widths: Lower end - 7.9 m
Middle - 5.2 m
Upper end - 5.4 m

Average Depths: Left side - 28.3 cm
Middle - 41.3 cm
Right side - 31.3 cm

Water Temperature: 14.9°C

Conductivity: 25 µmhos

Biological Sampling:

Species group	Number
Salmon	12
Trout	1
Sculpin	2

Name of Stream: MacMillan Brook

Tributary to: Taxis River

River System: Miramichi

Sampling site:

Date: 15/7/80

Location: Grid Reference 803408
Map Sheet 21 J/7 E

Description: Riffle area at upper quarter, with fast run entering pool at upper half; remainder, deep, slow run at lower quarter and along both banks. Makeshift bridge crossing stream at upper third. Stream-bed composition - 80% sand, 15% gravel and 5% rubble. Overhanging alders and grass along right bank. Gravel bar upper half and overhanging grass along lower half of left bank. Surrounding countryside wooded.

Area: 196.4 m^2

Widths: Lower end - 7.6 m
Middle - 5.6 m
Upper end - 4.8 m

Average Depths: Left side - 41.7 cm
Middle - 49.3 cm
Right side - 40.7 cm

Water Temperature: 14.4°C

Conductivity: 29 µmhos

Biological Sampling:

Species group	Number
Salmon (parr)	3
Trout	1
Dace	7
Sculpin	4

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